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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/539,955      | 06/17/2005  | Horst Glatz          | 5200.P0067US        | 8659             |

23474 7590 12/08/2009  
FLYNN THIEL BOUTELL & TANIS, P.C.  
2026 RAMBLING ROAD  
KALAMAZOO, MI 49008-1631

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| EXAMINER |
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CHANG, RICK KILTAE

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| ART UNIT | PAPER NUMBER |
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3726

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| MAIL DATE | DELIVERY MODE |
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12/08/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                     |  |
|------------------------------|--------------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/539,955 | <b>Applicant(s)</b><br>GLATZ ET AL. |  |
|                              | <b>Examiner</b><br>Rick K. Chang     | <b>Art Unit</b><br>3726             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2-17 is/are pending in the application.
- 4a) Of the above claim(s) 6-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-5 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### ***Specification***

1. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.
2. The substitute specification filed 8/24/09 has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because: the specification lacks section headings.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uhlmann et al (US 4,393,566) in view of N. A. Franks (US 3,568,488).

Re claim 1: Uhlmann discloses producing, coiling and uncoiling the drawn heat-exchanger tube material made of a non ferrous metal (copper) from a storage device, straightening the drawn tube material, annealing and subsequently cooling the drawn tube material before or after cutting (Abstract, entire cols. 1-7), except for bending the tube portions into a U-shape.

Franks discloses bending the tube portions into a U-shape (Fig. 7, copper tubes for cooling purposes).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Uhlmann by bending the tube portions into a U-shape, as taught by Franks, for the purpose of meeting the design criteria.

Re claims 2, 5: Uhlmann discloses that the drawn tube material or the tube portions are subjected to quality control in one of steps a) to c) and after cutting to length for separation into tube portions, defective tube portions are sorted out after the quality control (col. 7, lines 10-13; it is inherent that if the desired results are not met, the tube portions are discarded from the ones that met the desired results).

Re claims 3-4: Uhlmann discloses that the drawn tube material (i) is flushed with inert gas and the inert gas flows counter to the direction in which the drawn tube material (I) is uncoiled (col. 1, lines 44-68 and entire cols. 2-7).

### ***Response to Arguments***

5. Applicant's arguments filed 8/24/09 have been fully considered but they are not persuasive.

Uhlmann clearly discloses manufacturing heat exchanger tubes before being jacketed. Therefore, it is a matter of design choice to have a jacket on the tube or not. There is no mention in the Uhlmann reference that the jacket is an insulating material (no R value) or there is no heat transfer.

By utilizing Uhlmann's unjacketed copper tubes to form U-shaped tubes using Franks apparatus (unjacketed copper tubes for cooling purposes), the undesirable traits described by the applicants will not be formed. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies

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(i.e., avoiding the problems associated with the usual winding of the hardened heat-exchanger tubes to form multi-layered narrow- radius coils that are limited in weight, changed in cross-sectional shape in the form of ovalization, wall thickness changes and homogeneous stress distribution and a large amount of waste lengths) are not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

### ***Interviews After Final***

6. Applicant note that an interview after a final rejection must be submitted briefly in writing the intended purpose and content of the interview (the agenda of the interview must be in writing). Upon review of the agenda, the Examiner may grant the interview if the examiner is convinced that disposal or clarification for appeal may be accomplished with only nominal further consideration. Interviews merely to restate arguments of record or to discuss new limitations will be denied. See MPEP 714.13 and 713.09.

### ***Conclusion***

7. Please provide reference numerals (either in parentheses next to the claimed limitation or in a table format with one column listing the claimed limitation and another column listing corresponding reference numerals in the remark section of the response to the Office Action) to all the claimed limitations as well as support in the disclosure for better clarity (optional).

Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that

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the applicant point out the support for any amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (571) 272-4564. The examiner can normally be reached on 5:30 AM to 1:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rick K. Chang/  
Primary Examiner, A.U. 3726

RC  
December 8, 2009